

NOVEMBER/DECEMBER 2023

CBC51 — ENZYMES AND INTERMEDIARY METABOLISM

Time : Three hours

Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)



Answer ALL questions.

1. What are isoenzymes?
2. Compare the different units for enzyme activity.
3. Name any two anabolic pathways in carbohydrate metabolism.
4. Show the number of calories obtained from glycolysis.
5. What is the end product of oxidation of fatty acid with C 15 ?
6. Outline the structure of triacyl glycerol.
7. Define transamination.
8. Outline the role of SGOT in protein metabolism.

9. Recall the names and structures of purines.
10. Show the source of Nitrogen for nucleotide synthesis.

SECTION B — (5 × 5 = 25 marks)

Answer ALL questions.

11. (a) Make use of the induced fit theory to explain the mechanism of enzyme action.

Or

(b) Examine the nomenclature of enzymes.

12. (a) Identify the irreversible steps in Glycolysis.

Or

(b) Examine the Significance of HMP Shunt.

13. (a) Identify the Role of carnitine in beta oxidation.

Or

(b) Examine the steps involved in the biosynthesis of triacyl glycerol.

14. (a) Identify the enzymes involved in the decarboxylation of amino acids.

Or

(b) Compare and distinguish urea cycle from TCA cycle.

15. (a) Identify the regulation of purine biosynthesis.

Or

(b) Regulation of pyrimidine biosynthesis.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Explain the effect of substrate concentration on enzyme activity MM equation.

17. Explain the reactions of Glycolysis.

18. Discuss the Beta oxidation of Palmitic acid.

19. Elaborate on the reactions of urea cycle.

20. Discuss the biosynthesis of purines.

